

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009962**Date Inspected:** 26-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Jha and Wu Chi Chang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trail Assembly**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) S. Manjunath. Math was present during the times noted above for observations relative to the work being performed.

Orthotropic Box Girder (OBG) Trial Assembly Area

Segment 1AE and 1BE

This Quality Assurance (QA) Inspector witnessed final tension verification for U-Ribs to U-Ribs connecting bolts between PP 10 and 11 for Segment 1AE and 1BE. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used are M22x65 RC Lot No. DHGM220033 and final Torque required was 470 N-m.

Manual Torque wrench was been used with Serial No. XQ2-625

Segment 2AW

This Quality Assurance (QA) Inspector witnessed final tension verification for U-Ribs to U-Ribs connecting bolts at PP 13.5 for Segment 2AW, 2nd U-Rib from the Counter Weight Side. Inspected 10% on a random basis and found the tension to be in general compliance.

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Bolt sizes used are M22x65 RC Lot No. DHGM220021 and final Torque required was 543 N-m.

Bolt sizes used are M22x70 RC Lot No. DHGM220020 and final Torque required was 520 N-m.

Bolt sizes used are M22x80 RC Lot No. DHGM220012 and final Torque required was 427 N-m.

Bolt sizes used are M22x85 RC Lot No. DHGM220047 and final Torque required was 427 N-m.

Manual Torque wrench has been used with Serial No. XQ2-625.

### Lift 2 East

This QA Inspector observed ZPMC welding personnel performing Carbon Arc Gouging for removing the defects found by Ultrasonic Test for Segment 2AE to 2BE between PP 16 and 17 at Bottom Panel for Weld No. OBE2A-004. Noted down the “Y” Datum Line locations from the reference line and recorded the preheat temperature and approximately depth of excavations.

### External Side

Y Location Start= 230mm and Y Location Stops=2760 Length of excavation is 2530mm.

Y Location Start= 3550mm and Y Location Stops=7065 Length of excavation is 3515mm.

### Lift 2 West

This QA Inspector observed ZPMC welding personnel performing Carbon Arc Gouging for removing the defects found by Ultrasonic Test for Segment 2AW to 2BW between PP 16 and 17 at Deck Panel for Weld No. OBW2-003. Noted down the “Y” Datum Line locations from the reference line were 14170 and 16580.

### Lift 2 West

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment to Segment Transverse weld at Deck Panel UT rejected area for Segment 2AW to 2BW between PP 16 and PP 17 found by Scanning in D Pattern. Repair welding is been performed from external side at two locations. The weld joint is identified as OBW2-003. The welders are identified as 048659. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-1G (1F)-FCM-Repair-1. The welding has been performed against Critical Welding Report B-CWR867 Rev.0.

### Lift 2 West

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment to Segment Transverse weld at Side Panel UT rejected area for Segment 2AW to 2BW between PP 16 and PP 17 found by Scanning in D Pattern. Repair welding is been performed from external side at one locations. The weld joint is identified as OBW2A-003. The welders are identified as 054467. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G

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(4F)-FCM-Repair-1. The welding has been performed against Critical Welding Report B-CWR867 Rev.0.

### Segment 5BE

This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for Longitudinal Diaphragm for Segment 5BE at PP 22. The welding been performed against Welding Repair Report B-WR8065 Rev.0. The welders are identified as 220066. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-FCAW-2G (2F)-Repair-1.

### Segment 5CE to 5BE

This QA Inspector observed ZPMC Heat Straightening personnel performing Heat Straightening for Longitudinal Diaphragm North and South side for segment 5CE to 5BE between PP 34 and 35 against the HSR1(B)-7753.

### Segment 2BE

This QA Inspector observed at 2BE at PP 18 electric Cable support structure installation was in progress.

### Segment 2AE to 2BE

This QA Inspector observed at 2AE to 2BE from PP 13 and PP 18 Painting activities was in progress.

### Segment 2AE to 2BE

This QA Inspector observed at Segment 2AE to 2BE at PP 16 and 17 Bottom Panel repair work for Transverse weld is completed and completed weld flush grinding was in progress.

### Segment 6BE

This QA Inspector observed ZPMC personnel flame cutting the Side Panel excess material left over during fabrication for Segment 6BE at PP 41.

### Segment 5CE

This QA Inspector observed ZPMC personnel drilling holes on Deck Panel Corner Assembly area for facilitating installation of Road Barrier.

### Segment 5BW and 5CW

This QA Inspector observed ZPMC personnel Installing Cable Tray support structure on Bottom Pane T-Ribs drilling holes on Deck Panel Corner Assembly area for facilitating installation of Road Barrier.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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### Summary of Conversations:

No relevant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Math,Manjunath
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Quality Assurance Inspector
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<b>Reviewed By:</b>	Carreon,Albert
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QA Reviewer
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